

California Interagency Working Group on Indoor Air Quality

Meeting Minutes

March 14, 2001

**Cal/EPA Headquarters
1001 I Street, Sacramento**

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FUTURE MEETINGS

ANNOUNCEMENTS

Current Legislation

Several agencies report updates on the various bills affecting IAQ under consideration in the current session of the California Legislature. See items under [CDE](#), [DHS-EHIB](#), and [DHS-TCS](#).

Upcoming Conferences:

- *Asbestos Health Effects Conference*. May 24-25, 2001 at the Elihu M. Harris Building, Oakland, CA. Web: <http://www.epa.gov/swerrims/ahec/index.htm>.
- *National ETS Conference in San Diego*. May 30-31, 2001 at the San Diego Marriott Hotel and Marina. For more information, contact Joanne Wellman-Benson, (916) 445-3737 or JWellman@dhs.ca.gov.
- *Issues in the Assessment of Health Impacts of Gasoline Emissions in California*. June 12-13, 2001 at the UCLA Faculty Center, Los Angeles, CA. Register by e-mail to Dr. Kanan Patel-Coleman, kcoleman@ucla.edu, by June 5, 2001.
- *Mealey's Mold Litigation Conference*, June 25-26, 2001, Los Angeles, CA. Organizers are offering a reduced rate to government employees (\$663). Information is available by phone (800) 632-5397 or on-line at http://www.mealeys.com/sem_agen.html#MOLD.
- U.S. EPA will host its second *IAQ Tools for Schools* National Symposium, August 9-11, 2001 in Washington, D.C. Information is available from Kim Smith (smith.kim@epa.gov) or on-line at <http://www.epa.gov/iaq/schools/symposium.html>.

Several New Documents on Indoor Mold are Now On-Line:

- U.S. EPA's *Remediation for Mold in Schools and Commercial Buildings*, <http://www.epa.gov/iaq/molds/index.html>
- CDHS HESIS Infosheet: *Mold in Workplace*, <http://www.dhs.ca.gov/ohb/HESIS/molds.pdf>
- California Research Bureau Report: *Molds, Toxic Molds, and Indoor Air Quality*, <http://www.library.ca.gov/crb/01/notes/v8n1.pdf>

SPECIAL PRESENTATION

Indoor Air Quality and the New CalEPA Building, Peggy Jenkins, CARB Research Division.

Peggy gave an informative overview of the project's Green Building and IAQ features. She described an elaborate air testing program that her unit oversaw and presented their assessment of test results. Some construction and early occupancy problems and actions taken were also described. After the meeting, the group was taken on a guided tour of the building by DGS-BPM staff. Presentation slides can be viewed at: http://www.cal-iaq.org/CIWG/CalEPA_2001-03.pdf. Further information about the new Cal/EPA Building in Sacramento can be found on-line at: <http://www.calepa.ca.gov/EPAbldg/default.htm>

AGENCY REPORTS ON CURRENT IAQ ACTIVITIES

American Lung Association of Los Angeles County (ALALAC)

-- Arlene Feingold (feingolda@lalung.org)

<http://www.lalung.org/>

Open Airways for Schools and IAQ Tools for Schools. We currently have grants for these two programs. One is from the national American Lung Association, who is funding several Center for Excellence sites. The goal is to jointly implement both *Open Airways for Schools* (OAS), a program to help elementary school children manage their asthma, and *IAQ Tools for Schools*, at targeted schools in a specified region. As of this writing, we have reached our goal of implementing OAS at 35 schools. Our efforts to implement *IAQ Tools for Schools* have not been as successful, however we feel that we are making good progress. We also have a grant from USEPA Region 9 to implement both OAS and *IAQ Tools for School* in a region called the Alameda Corridor. We are well on our way to implementing both of these programs in that area and expect to meet our goals.

LAUSD IAQ Resolution. On January 23, 2001, the Los Angeles City Board of Education adopted a resolution on Indoor Air Quality and Respiratory Health and has recommended implementation of the *IAQ Tools for School* and *Open Airways for Schools* programs. LAUSD is the largest school district in the nation to address the issue of indoor air quality in this manner. We expect that this development will greatly support our efforts to implement the *IAQ Tools for Schools* program at a maximum number of schools. The successful passage of the resolution is due to the joint efforts of ALALAC, USEPA Region 9, and the Los Angeles Unified School District (LAUSD) Office of Environmental Health and Safety. The resolution can be viewed on-line at: <http://www.lausd.k12.ca.us/lausd/board/secretary/html/agendas/mt/mt01-23-01.html> (see Item Q).

Classroom Ventilation. An integral component of the *IAQ Tools for Schools* Program is a walkthrough inspection. A problem discovered during a recent walkthrough at a school, was the inability of school personnel to switch the fan control in Portable Classrooms to air only when neither heating or cooling was required. We are working to resolve this problem with the help of Scott Alexander, Mobile Modular.

Other Activities Promoting IAQ Tools for Schools:

- *Indoor Air Quality Tools for School* Workshop/Community Outreach in Long Beach, co-sponsored by USEPA Region 9, December 16, 2000.
- *Indoor Air Quality Tools for School* Workshop in Downey, co-sponsored by USEPA Region 9 and Los Angeles Unified School District, February 22, 2001.
- Mentor Training Workshop at ALALAC, March 30, 2001.
- NBC News broadcast a segment showing two schools in Los Angeles currently implementing *IAQ Tools for Schools* in mid-February 2001; the video was shown at the CIWG-IAQ meeting.

California Air Resources Board / Indoor Air Quality & Personal Exposure Assessment Program

-- Peggy Jenkins (mjenkins@arb.ca.gov)

<http://www.arb.ca.gov/research/indoor/indoor.htm>

California Portable Classrooms Study (PCS). The PCS is progressing on schedule. In February and March 2001, ARB and DHS sponsored four workshops in northern and southern California. There is widespread interest in the study--representatives from school districts, all levels of government, school building related industries, environmental groups, and consultants attended the workshops. Many attendees offered valuable information and suggestions on various aspects of the study. A short report on the workshops, including questions asked and the responses to those questions, will be posted to the PCS website in early May. The PCS website is <http://www.arb.ca.gov/research/indoor/pcs/pcs.htm>.

Newly-approve IAQ Research Projects. The Board approved two research projects at its April 26, 2001 meeting:

- The Children's Bus Exposure Study (UC Riverside and UCLA) will examine levels of pollutants inside school buses, outside the buses, at bus stops, and at loading areas at the schools to provide data that can be used to estimate children's exposures to pollutants during their bus commutes. Levels in diesel buses, diesel buses with particle trap retrofits, gasoline buses, and alternative fuel (CNG) buses will be tested. A wide variety of particulate and gaseous pollutants will be measured. The study will begin this summer and be completed by June 2003. For more information, contact Scott Fruin at sfruin@arb.ca.gov.
- Augmentation to the PCS will provide additional funding to Research Triangle Institute for the analysis of the floor dust samples to be collected in the main field study. Samples will be analyzed for PAHs, PCBs, toxic metals, and pesticides. Funding also covers collection and analysis of airborne molds. ARB will also convene a small advisory panel to provide input regarding sampling and analysis methods for the dust samples. For more information, contact Tom Phillips at tphillip@arb.ca.gov

IAQ Symposium Proceedings. The Proceedings from the ARB-DHS Symposium on Indoor Air Quality, held in May 2000, is now available on ARB's web at <http://www.arb.ca.gov/research/indoor/indoor.htm>. Those who attended the symposium last year will receive a copy in the mail in the next few weeks. Those who did not attend but whom would like a copy of the Proceedings should contact Dorothy Shimer at dshimer@arb.ca.gov

IAQ Guidelines for Chlorinated Chemicals. The ARB has published *Chlorinated Chemicals in Your Home*, its third Indoor Air Quality Guideline. DHS and OEHHA reviewed the guideline and provided very useful comments. The guideline describes the health effects and sources of six chlorinated chemicals (perchloroethylene, trichloroethylene, chloroform, para-dichlorobenzene, methylene chloride, and 1,1,1-trichloroethane), and tells the public what they can do to reduce their exposures to these chemicals. Common sources include consumer products, dry-cleaned clothes, and chlorinated domestic/municipal water. The guideline will be available on-line at our web site. For more information, contact Peggy Jenkins, mjenkins@arb.ca.gov

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Update on IAQ to Board. ARB's Indoor Program staff presented an update to the Board at the April 26 Board meeting. The Board expressed concern regarding indoor exposures that cannot be, or are not being, addressed. The new guideline on chlorinated chemicals spawned much discussion, as did concern re: children's exposures during their school bus commute. The staff presentation (text and slides) are expected to be made available on ARB's web (see above) in early May. For further information, contact Peggy Jenkins, mjenkins@arb.ca.gov.

California Department of Education / School Facilities Planning Division

-- Tony Hesch (THesch@cde.ca.gov)

<http://www.cde.ca.gov/facilities/>

Ellen Aasletten will be retiring from the CDE in the coming months. We all wish her well (and hope she'll stop by to visit once in a while).

Current Legislation. The CDE staff are involved in advising districts on the pesticide use and reporting requirements under Healthy Schools Act of 2000 (AB 2260, Shelly). In the current session, AB 947 (Jackson) addresses the issues of pesticide drift from agricultural applications and would authorize county commissioners to regulate pesticide applications around school sites. There are several bills responding to the rising electricity costs for school districts.

Acoustics in the Classroom. Plans for CDE to fund a study of acoustic standards for the classroom were postponed.

California Department of Health Service / Environmental Health Investigations

Branch -- Sandra McNeel (SMcNeel@dhs.ca.gov)

<http://www.dhs.ca.gov/ps/deodc/ehib/>

Investigations: Staff are conducting a telephone survey of local environmental health departments and building agencies to determine the types of services available to residents with indoor mold questions or contamination. The survey is collecting information on health and remediation information provided and inspection services available. Interviews have been completed and data analysis is beginning. Contact Sandy McNeel, 510-622-4457 or smcneel@dhs.ca.gov.

New EHIB Fact Sheets:

- *Misinterpretation of Stachybotrys Serology* is available on the EHIB website (www.ehib.org). This document is directed to physicians and other health professionals and presents information on availability and validity of biomonitoring methods for this fungus. The primary message is that there is currently no validated blood or urine test that can determine exposure to *Stachybotrys chartarum*.
- *Mold in My School: What do I do?* has received approval for imminent public release. This new fact sheet is designed for school principals, facility managers and other administrators. It is

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currently undergoing formatting and graphic design, and it is expected to be available on the EHIB website soon.

Current Legislation. Staff have analyzed or are in the process of analyzing three recently introduced bills that address various aspects of indoor mold contamination. These bills are:

- AB 178 (Cox): requires landlords to disclose presence of mold to current or prospective tenants, adds visible mold on interior surfaces to substandard housing code.
- AB 284 (Jackson): requires CDHS to establish toxic mold surveillance and monitoring program.
- SB 732 (Ortiz): adds presence of mold to substandard housing code, charges CHDS and Office of Environmental Health Hazard Assessment to develop permissible exposure limits for indoor mold, requires disclosure of mold presence for real estate transactions and property leases, provides authority for local health or housing officials to require remediation of mold contamination in rental buildings, charges CDHS to develop standards for investigation and remediation of indoor molds and to develop criteria for certification or licensing of those who investigate or remediate moldy buildings.

Presentations:

- Sandy McNeel, representing the California Department of Health Services (CDHS), provided testimony to the state senate Committee on Health and Human Services at an informational hearing on the “public health effects of toxic mold”. Although there were major time constraints for all speakers, committee members heard testimony from a wide range of stakeholders. These included individuals experiencing health effects associated with fungal contamination of their homes or workplaces, public health officials, physicians with differing perspectives on the role of indoor fungi on human health, and representatives from legal, building, property management, real estate, insurance and multifamily housing groups. Major public health messages were: fungal growth inside buildings can be a health hazard and should not be tolerated; “toxic” molds are not the only cause for health concern in mold contaminated buildings.
- Staff discussed indoor fungi and health effects at the U.S. E.P.A.-sponsored Asthma and Allergen Control Conference (Oakland, Jan. 22), with the Los Angeles County Lead Poisoning Prevention Program (L.A., Feb. 7), and the Northern California branch of the Society for Risk Analysis (Berkeley, March 8).

California Department of Health Service / Indoor Air Quality Section

-- Jed Waldman (JWaldman@dhs.ca.gov)

<http://www.cal-iaq.org>

BASE Study. The U.S. EPA is funding a contract for the IAQ staff to continue their review of data sets from the Building Assessment & Survey Evaluation (BASE) study of 100 buildings. Key efforts will be looking at the vast and complex data on bioaerosol measurements. A paper is being prepared on the prevalence of culturable airborne fungi, to be presented at the ASHRAE conference (IAQ 2001): *Moisture, Microbes and Health Effects: Indoor Air Quality and*

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Moisture in Buildings, November 4-7, 2001 in San Francisco. Contact: Kai-Shen Liu, KLiu@dhs.ca.gov.

Environmental Tobacco Smoke (ETS) Study. Chamber experiments at LBNL are nearly completed. A number of experiments were conducted to investigate the effects of open plenum between the smoking and adjoining non-smoking rooms. The results of the door opening experiments prompted us to plan some experiments with sliding door and no door at all – not part of our original proposal. We anticipate conducting field experiments through mid or late summer. We have completed our survey of California local tobacco control jurisdictions and their restrictions smoking rooms. We are continuing to analyze the CTS survey data. Contact: Leon Alevantis, Lalevant@dhs.ca.gov.

Portable Classroom Study. [See related note under ARB.](#) In addition, DHS staff are completing our survey enumerating the total numbers of classrooms and portable classrooms for each school site. We have data for approximately 95% of the districts. Our preliminary data indicate that in the 2000-01 school year, there were approximately 72,000 portable classrooms, out of a total of 230,000 classrooms. Approximately 45% of portables were reported as under 6 years old, and 28% as more than 15 years old. Contact: Jed Waldman, Jwaldman@dhs.ca.gov.

Sierra Radon Survey. We have retrieved radon monitors in Sierra households in January, after one year monitoring. Laboratory analyses are complete, and we are preparing to send out notification of results to volunteer households. About 3% of participating homes were found to have annual radon levels above 4 pCi/l. Contact: Feng Tsai, FTsai@dhs.ca.gov.

Emissions of Building Materials With High-Recycled Contents. The CIWMB is funding a study to measure emissions of building materials with high recycled contents and compare them to their virgin counterparts. Building materials will include portable classroom construction as well as conventional state construction. IAQS staff will coordinate activities through a contract with the Public Health Institute. We anticipate that the contract will be signed early this summer. Contact: Leon Alevantis, Lalevant@dhs.ca.gov.

Conference Presentations.

- Leon Alevantis attended the ASTM Subcommittee on Indoor Air in Phoenix where he was invited to talk about California's sustainable efforts for building materials.
- Janet Macher presented at NCCSRA (Northern California Chapter of the Society for Risk Analysis), Spring Meeting, Indoor Air Quality Evaluations — Bioaerosols, "Prevalence of Fungi in the Buildings in the USEPA Building Assessment Survey and Evaluation (BASE) Study"

National Committee Work.

- Janet Macher attended the NAS Committee on Air Quality in Cabins of Commercial Air Craft meeting in San Francisco in February, including a visit to United Airlines maintenance center at Oakland airport.
- Leon Alevantis was nominated for a four-year appointment to the ASHRAE 62 committee on

ventilation. The vote process for new members will take place at the next ASHRAE meeting in June.

California Department of Health Service / Occupational Health Branch

-- Liz Katz (Ekatz@dhs.ca.gov)

<http://www.dhs.ca.gov/ohb>

American Lung Association "Clean Air Award" to OHB Physician. Dr. Robert Harrison will receive the Clean Air award from the Bay Area Chapter of the ALA, in recognition of his work on occupational asthma prevention. Dr. Harrison is Chief of the Occupational Health Surveillance and Evaluation Program (OHSEP) in the Occupational Health Branch.

Molds in Indoor Workplaces fact sheet now available. This new HESIS fact sheet is designed for workers and employers, and explains the health effects of mold exposure, how to recognize mold problems in workplaces, and what to do. Available by phone request (510) 622-4328 and on the OHB/HESIS website (at <http://www.dhs.ca.gov/ohb/HESIS/molds.pdf>).

California Department of Health Service / Radon Program

<http://www.dhs.cahwnet.gov/ps/ddwem/environmental/radon/radon.htm>

-- Richard Blood (Rblood@dhs.ca.gov)

Radon Monitors Free to the Public. The Radon Program has acquired 3500 radon test kits (activated charcoal) to distribute to residents throughout the state; special focus is aimed at areas where data are deficient. Residents will determine with short-term average concentrations in their home, and the laboratory will provide DHS with the concentration and zip code for each kit analyzed.

Providers of Radon Services. The State of California requires individuals or company's providing radon services to be certified. Individuals and companies certified to provide radon services in California obtain their certification from one of two professional organizations, the National Radon Safety Board (NRSB) or the National Environmental Health Association (NEHA). Links to these organizations are given on the web site above. The DHS distributes lists of providers of radon services in three board categories: testers, mitigators, and laboratories, for ease of use. These lists are also available via the internet or from Richard Blood, (916) 324-2208.

California Department of Health Service / Tobacco Control Section

-- Joanne Wellman-Benson (JWellman@dhs.ca.gov)

National ETS Conference in San Diego. TCS will be hosting a national ETS (environmental tobacco smoke) conference in San Diego at the San Diego Marriott Hotel and Marina on May 30-31, 2001. National experts on ETS policy and science will be presenting updated information such

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as health effects, ventilation, and outdoor tobacco smoke. Participants will have an opportunity to attend breakout sessions on everything from developing ETS campaigns in rural settings to legal tools to enhance compliance with ETS laws. For more information, contact Joanne Wellman-Benson, (916) 445-3737 or JWellman@dhs.ca.gov.

Public Attitudes Toward Smoke-Free Environments. A statewide Field Poll was recently conducted of Californians' attitudes toward smoke-free environments. Attitudes regarding smoke-free areas within playgrounds, building doorways, patio dining areas, outdoor entertainment venues, casinos, apartment common areas, a percentage of rental units, hospital grounds, campus housing, nursing homes, and hotel common areas were asked of 1700 adults. The results of the Poll will be released shortly.

Current Legislation. Assembly Bill (AB) 188, introduced in 2001 by Vargas, would prohibit smoking within 50 feet of tot lots in playgrounds. It would also prohibit the disposal of any tobacco-related product including cigarettes, cigarette butts, and cigar butts within 50 feet of tot lot sandbox areas. The intent of the bill is to reduce secondhand smoke exposure to children, as well as to eliminate ingestion of tobacco waste by children. Information is available on-line at <http://www.leginfo.ca.gov>.

California Department of Industrial Relations (Cal/OSHA)

– Bob Nakamura (bnakamura@hq.dir.ca.gov) <http://www.dir.ca.gov/dosh/>

Airborne Contaminants (§8CCR 5155). Cal/OSHA is preparing to review more changes proposed the ACGIH.

Laboratory Fume Hoods (§8CCR 5154.1). The Division has convened five advisory committees to evaluate two different petitions requesting the Standards Board to reduce ventilation rate requirements and establish a performance standard in place of the existing regulation. The last meeting was on January 23, 2001 in San Francisco. Another draft proposal was presented and discussed by the attendees, but no final proposal was adopted. The next meeting is scheduled sometime in the Spring. The coordinator is Bruce Wallace, (415) 703-5165.

Heat Stress Standard. The Division has held two advisory committee meetings to review the need and issues involved in proposing a standard for heat stress. The last meeting was on October 24, 2000 in Oakland. A draft proposal was reviewed at the meeting. For more information, contact Bob Barish, (415) 703-5100.

Revision of the Sanitation Standard (GISO 3362). CDHS-HESIS proposed language to Cal/OSHA to change the sanitation standard to specifically identify mold as an unsanitary condition that must be corrected by an employer. This is being processed as a clarification to the existing standard, rather than a major revision or adoption of new requirement.

California Integrated Waste Management Board

-- Kathy Frevert: kfrevert@ciwmb.ca.gov

The California Integrated Waste Management Board posts information on Green Building Design and Construction at its web site: <http://www.ciwmb.ca.gov/GreenBuilding/>. New information on green construction materials from several building projects is outlined using the *Construction Specification Institute (CSI) MasterFormat*, and data have been put into a matrix outlining the recycled content percentage adopted on each project and identifying numerous environmental attributes and information on availability. This information can be found at: <http://www.ciwmb.ca.gov/GreenBuilding/Materials/Review.htm>. This document is being continually updated; if you have information to contribute, please send it electronically to Dana Papke, dpapke@ciwmb.ca.gov.

City of San José / Code Enforcement

<http://www.ci.san-jose.ca.us/code/>

-- Gary Lynch (gary.lynch@ci.sj.ca.us)

Last summer, the City of San José adopted a Building Division Policy on Wood Burning Appliances (<http://www.ci.san-jose.ca.us/building/Other/WoodPolicy.pdf>). It refers to the ordinance passed by the City Council which bans woodburning fireplaces, and was based on model code developed by the South Coast Air Quality Management District. The San Jose ordinance can be found on-line at <http://www.ci.san-jose.ca.us/building/Other/Ordinance.pdf>. The California Hearths and Home industry group is suing both San Jose and Palo Alto, which passed a similar ban earlier last year, because "a ban on new wood-burning fireplaces denies manufacturers the opportunity to meet air emission standards." Gary is the City's Environmental Compliance Manager.

Green Resource Center (GRC)

--Jan Stensland-Patton (Jan@JSPattoncom)

<http://www.greenresourcecenter.org/>

The GRC is a project of the northern California chapter of *Architects/Designers/ Planners for Social Responsibility* (ADPSR), <http://www.adpsr-norcal.org>. GRC was recently awarded a contract with Alameda County Waste Management Authority (ACWMA) for a pilot project on public information. ACWMA is preparing the release of *Green Building Remodeling Guidelines* in May, and GRC will be formulating answers to FAQ's and fact sheets in support of the roll-out. These fact sheets will also contain IAQ related information about materials.

Lawrence Berkeley National Laboratory / Indoor Environments Program

-- Mike Apte (MGAPte@lbl.gov)

<http://eetd.lbl.gov/iep/iep.html>

High Performance Relocatable Classrooms. As part of a PIER Program Project, Mike Apte is directing research on developing and testing a concept for high-performance relocatable classrooms (RCs). They will evaluate the benefits of a novel building ventilation system and of construction materials that emit fewer indoor pollutants. One project will test a high-performance ventilation and air conditioning system, the Indirect-Direct Evaporative Cooler (IDEC), suitable for warm dry climate zones of California. In these climates, IDEC offers potential cooling energy savings of about 70 percent compared to the standard 10 -SEER air conditioner used in RCs. In addition to energy savings, the IDEC provides a continuous flow of outside air, which will improve the indoor air quality. Information is available on-line at http://buildings.lbl.gov/cec/project6-ieq/frame_ieq.html.

Office of Environmental Health Hazard Assessment

-- Richard Lam (RLam@oehha.ca.gov)

<http://www.oehha.org/>

SB 25. OEHHA is releasing a draft document, *Prioritization of Toxic Air Contaminants - Children's Environmental Health Protection Act*, to solicit public comments. This draft document has been developed by OEHHA for use in implementing SB 25, the Children's Environmental Health Protection Act. OEHHA is required to develop by July 1, 2001 a list of up to five chemicals identified as Toxic Air Contaminants that may cause infants and children to be especially susceptible to illness. The draft document includes a) description of the prioritization process, b) summaries for chemicals (acrolein; benzene; diesel exhaust particulate matter; polychlorinated dioxins, furans, and biphenyls; formaldehyde; glycol ethers; lead; mercury; PAHs; and vinyl chloride) considered priority candidates for the list. This document will also undergo review by the state's Scientific Review Panel on Toxic Contaminants. You can find it on-line at http://www.oehha.ca.gov/air/toxic_contaminants/CRNR_TAC%20prioritization.html.

East Bay Children's Respiratory Health Study. This is a cross-sectional study of school aged children and examines the relationship between respiratory health and exposure to traffic-related air pollutants. Ten schools in a Northern California area based on their proximity to major roadways and estimation of density were selected. Approximately 1500 third and fourth graders have been invited to participate. The child's respiratory health and his/her home environment will be assessed through parental responses (questionnaire). At each school the average concentrations of outdoor pollutants such as PM2.5, PM10, nitrogen oxides, ozone, and CO, will be measured. The contact person is Janice Kim, Jkim@oehha.ca.gov.

Proximity of California Public Schools to Busy Roads. This is a statewide study using the CA Department of Education database and GIS methods to geocode the schools and their proximity to busy roads. The contact person is Janice Kim, Jkim@oehha.ca.gov.

School Sites Health Risk Assessment. This study identifies chemical contaminants commonly found at school sites and are of concern based on child-specific exposures and physiological sensitivities. The study will publish guidance for use by DTSC and other agencies to assess exposures and health risks at existing and proposed school sites. The contact person is Jim Carlisle, Jcarlisle@oehha.ca.gov.

Green Building Taskforce. OEHHA is a member of the taskforce and has worked with other members of the group on the document *Building California's Sustainable Future - A Blueprint for State Facilities*. This document has been approved by the Secretary of State and Consumers Services Agency, and the draft document is being sent to other state agencies for comments.

ARB/DHS Portable Classroom Study. OEHHA provided comments to the questionnaires for the teachers and facility managers.

Meetings Organized by OEHHA

- *Children's Environmental Health - Developing a Risk Assessment Framework.* April 23-24, 2001 at the DoubleTree Hotel, Monterey, CA. Web: <http://www.rce.csus.edu> (conference Services).
- *Asbestos Health Effects Conference.* May 24-25, 2001 at the Elihu M. Harris Building, Oakland, CA. Web: <http://www.epa.gov/swerrims/ahec/index.htm>
- *Issues in the Assessment of Health Impacts of Gasoline Emissions in California.* June 12-13, 2001 at the UCLA Faculty Center, Los Angeles, CA. Register by e-mail to Dr. Kanan Patel-Coleman, kcoleman@ucla.edu, by June 5, 2001.

Stanford University

-- Wayne Ott (wayne@stat.stanford.edu)

Wayne Ott conducted a reanalysis of measurements made of fine particle concentrations in 199 indoor-outdoor locations (stores, restaurants, offices, hotel lobbies, banks, art galleries, copy centers, etc.) in the downtown areas of three California towns -- Menlo Park, Palo Alto, and Mountain View. The results showed that the highest indoor mean PM-3.5 concentrations ($121 \mu\text{g m}^{-3}$) occurred in locations with a combination of smoking and cooking, followed by locations with smoking only ($58 \mu\text{g m}^{-3}$), followed by locations with cooking only ($40 \mu\text{g m}^{-3}$). The lowest indoor mean concentration ($18.8 \mu\text{g m}^{-3}$) occurred in the 147 downtown locations with no cooking or smoking, which had nearly the same indoor concentration as the outdoor mean concentration ($16.4 \mu\text{g m}^{-3}$). A follow-up study showed that smoking no longer was present at the 13 locations where it was observed earlier. Very few data are available on particle concentrations in nonresidential locations in downtown areas of U.S. cities, so these results can be used in the development of exposure models for particles.

Paul Switzer had his letter to the editor published in the *Journal of the Air and Waste Management Association* (March 2001). It addresses several important issues about the relation

between ambient particulate matter (PM), personal exposures, and mortality. This published letter discusses the linearity of exposure-response in epidemiologic time-series studies, averaging of personal exposures across a population, the chemical heterogeneity of PM, and the effect of frail populations on the analyses.

Neil Klepeis began work on refining a flexible computer program designed to obtain easily the parameters for the two-compartment indoor model. The computer program allows the user to select different parameters of the closed-form solutions to the two-compartment model in a "game-playing" environment, thereby making the choice of the preferred parameters and their sensitivity to change more easily understood by the investigator and modeler. Paul Switzer, Wayne Ott and Neil are developing a computerized database of the published scientific papers on multi-compartment indoor air models.

State Compensation Insurance Fund (State Fund)

-- Paul Michalko (PMMichalko@scif.com) <http://www.scif.org/newscif2/>

Paul provided an overview of IAQ-related activities relating to workers' comp claims to the State Fund. He observes that IAQ-problems are among the top reasons for workplace injury claims. He is involved industrial hygiene investigations and loss control with the State Fund's Safety and Health Services. Resources on the State Fund web site include *Safety Newsletters*, *Tailgate Topics*, and *Loss Control Bulletins*. State Fund also offers an Occupational Health Education Series and a set of Safety Seminars.

U.S. EPA Region IX / Indoor Environment Team

-- Barbara Spark (spark.barbara@epa.gov) <http://www.epa.gov/iaq/>

Mold. The Indoor Environments Division has posted its new guidance document: "Remediation for Mold in Schools and Commercial Buildings" on our web page: <http://www.epa.gov/iaq/> Hard copy publication is expected in August, when it can be ordered from IAQ INFO - iaqinfo@aol.com. Please do not contact IAQ INFO for this document before AUGUST. Contact: Barbara Spark, (415) 744-1132 or spark.barbara@epa.gov.

Barbara Spark testified at the California Senate Health and Human Services Committee informational hearing "Public Health Effects of Toxic Molds" held by the on March 7, 2001. The primary theme of her testimony was that the issue is "molds," not just "toxic molds," and that steps should be taken to prevent and remediate all mold growth in buildings. Contact: Barbara Spark.

Asthma. USEPA and the Ad Council have launched a national multi-media asthma awareness campaign. One of our national partners, AARC (American Association for Respiratory Care), has posted a nice accessible set of our information materials on their web page, at http://www.aarc.org/advocacy/public_outreach/pr_ideas.html Our U.S. EPA web page for the

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campaign: <http://www.epa.gov/iaq/asthma/adcampaign.html>. You can view/hear the public service announcements at the campaign web site: <http://www.noattacks.org>. Contact: Barbara Spark.

We presented the course "Indoor Air Quality: Asthma and Allergen Control," in Oakland on January 22-23, 2001 via the University of Tulsa IAQ training center. Demand outstripped the 140-person room capacity. We are seeking the means to provide this training in Southern California at a later date. Contact: Barbara Spark

Barbara Spark participated in the statewide meeting of the California Asthma Advisory and Strategic Planning Workgroup on March 28 in Oakland. In this and other asthma workgroups we are observing increasing attention to the role of indoor asthma triggers. Contact: Barbara Spark

School Indoor Air Quality. *IAQ Tools for Schools* training workshops were held in Oakland, Anaheim and Downey in February, in conjunction with our grantees in American Lung Association (ALA) affiliates in Los Angeles and Orange Counties, as well as ALA of San Francisco/San Mateo, which is organizing an *IAQ Tools for Schools AIHA Mentor Program* all over the Bay Area. A similar workshop was provided in San Diego in March. Contact: Shelly Rosenblum, at (415) 744-1047 or rosenblum.shelly@epa.gov.

IAQ Tools for Schools kits are back in print and "upgraded". The second edition of the *IAQ Tools for Schools Action Kit*, which has been available on-line for some months, is now available in "hard copy." Additions include *Managing Asthma in the School Environment*, and a school walkthrough "road map." For information, call *IAQ INFO Clearinghouse* at (800) 438-4318, or look on the web at <http://www.epa.gov/iaq/schools/tools4s2.html>. The Action Kit second edition also is available on CD-ROM from IAQ INFO. Ask for EPA document number 402-C-00-002, August 2000.

The Board of Education of the Los Angeles Unified School District passed a resolution endorsing implementation of both *IAQ Tools for Schools* and the ALA *Open Airways for Schools* program (which we help support). Shelly Rosenblum and Barbara Spark are part of a newly constituted "IAQ Advisory Board." Contact: Shelly Rosenblum.

Shelly Rosenblum has created a CD Powerpoint presentation of his *IAQ Tools for Schools* workshop slides to make it easier for our grantees and partners (including IWG members!) to give talks on the program. These materials provide a very down-to-earth approach based on our five years of experience working with the challenging issues facing California schools. Contact: Shelly Rosenblum.

The Indoor Environments Division has announced the second *IAQ Tools for Schools* National Symposium, to take place August 9-11, 2001 in Washington, D.C. Information and updates are available at <http://www.epa.gov/iaq/schools/symposium.html>.

The Winter 2000/2001 issue of the CASBO (California Association of School Business Officials)

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Journal of School Business Management included an article on the indoor air crisis at Saugus Union School District and "IAQ Tools for Schools" co-written by Shelly Rosenblum. The article has been posted at the CASBO Journal web page: <http://www.casbo.org/Journal.htm> where it will remain indefinitely. The article advocates powerfully for implementation of *IAQ Tools for Schools*. Contact: Shelly Rosenblum.

U.S. Occupational Safety and Health Administration (OSHA)

-- Jerry Betro (jerry.betro@sacramento.osha.gov)

<http://www.osha.gov/>

Federal Ergonomic Standard. In the last months of the Clinton Administration, OSHA enacted an ergonomics standard for the workplace; the Final Rule can be found on the internet at http://www.osha-slc.gov/FedReg_osha_data/FED20001114.html. However, in March 2001, Congress passed a joint resolution, then signed by President Bush, repealing the OSHA ergonomic standard.

Office Closings. Program cuts for OSHA under the Bush administration are forcing the closure of the Sacramento office.

WORKING GROUP COMMITTEES

Indoor Environmental Quality of Schools

-- Jed Waldman (JWaldman@dhs.ca.gov)

Informal Group on IEQ in School Studies. To help enhance communication and share lessons learned, agency researchers conducting an array of school-related environmental health studies are meeting monthly. The group will provide staff with updates on study progress as well as a forum for discussion of cross-cutting topics, such as demographics, statistical sampling, field study logistics, measurements and analyses, and risk communication.

Collaborative for High Performance Schools. A set of workshops were held in January in Sacramento, one directed toward district officials (17th), and the other a technical presentation for architects and engineers (18th). The CHPS manual is now finalized and available at their web site: <http://www.chps.net/>.

Building Design and Operations

-- Leon Alevantis (LAlevantis@dhs.ca.gov)

Environmental Specifications for Office Workstations. Earlier this year, an award was made to Allsteel for a three-year contract with the state. At this time, the Prison Industry Authority (PIA) has not provided documentation on whether or not they meet the Environmental Specification. As a result, workstations at Block 225 of the Capitol Area East End Project will be supplied by Allsteel. PIA has the first right of refusal on any state project. However, the State has determined that PIA workstations cannot be used on state projects unless both the environmental specifications and pricing requirements are met by PIA.

Capitol Area East End Project. Meetings with DGS and the two contractors continue, and various issues are addressed and resolved as necessary. Section 1350 of Block 225 had to be revised based on input received from the testing laboratories. The changes are related to sample preparation and modeling of IAQ concentrations.

Green Building TaskForce. Hal Levin and Anthony Bernheim through Eley Associates have been retained to revise the Reference Specifications as well as the portion of the Best Practices Manual related to building materials. Hal and Anthony have field-tested Section 1350 for a number of building materials for Block 225 of the East End project.

Sustainability Executive Order. The Executive Order report has been drafted and reviewed by the members of the Green Building Taskforce. Due to delays related to the energy crisis, the report has not been submitted to the Governor's office at this time.

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Web Site. The following documents related to building materials, design, and operations are now available on-line at <http://www.cal-iaq.org/VOC/>:

- Reducing Occupant Exposure To Volatile Organic Compounds (VOCS) From Office Building Construction Materials: Non-Binding Guidelines
- Environmental Specifications for Office Furniture Systems
- California Contract: 1-01-71-50: Open Office Panel Systems
- Governor Davis' Executive Order D-16-00: Sustainable Building Goals in California

FUTURE MEETINGS

Upcoming meetings of the CIWG-IAQ are scheduled as follows:

- June 6, 2001, DHS Laboratory, 2151 Berkeley Way, Berkeley
- September 12, 2001, CalEPA Building, 10th & I St., Sacramento
- December 12, 2001, TBA